

REMARKS

This Amendment is responsive to the Office Action mailed on November 30, 2005. Claim 1 is amended. Claims 8-11 have been withdrawn. However, it is noted that claims 8-11 are process claims that depend ultimately from claim 1, which is a product claim. Accordingly, upon allowance of claim 1 it is submitted that Applicants will be entitled to allowance of process claims 8-11.

Claims 1-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Franke (DD 299458) in view of Wolthers (DD 301726), Hill (US 6,723,349) and Fuchs (US 4,284,645).

Applicants respectfully traverse these rejections in view of the following comments.

Discussion of Amended Claims

Claim 1 is amended change “aminoalkanoxide” to “aminoalkoxide” to more accurately reflect the claimed subject matter.

Discussion of Prior Art Rejection

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Franke, Wolthers, Hill and Fuchs. It is respectfully submitted that the Examiner has misinterpreted the nature of Applicants' claims.

Applicants' claims are directed towards decontaminating fluids having complex chemistry. Such decontamination fluids require a balanced system of reactants and solvents in order to:

- a) cope with a number of different warfare agents; and
- b) achieve maximum results in a minimum amount of time.

The various components of such decontaminating fluids cannot be exchanged with different ones, even if they appear to be chemically similar, without influencing the properties of such decontaminating fluids drastically.

The Examiner acknowledges that the subject matter of claim 1 is novel over Franke in that as a third liquid componént the present invention uses 20 to 50 weight % of a cyclic C₂₋₅ acid

amide and/or an aliphatic C₂-₆ diamine, whereas Franke requires the use of a cyclic C₆ acid amide (specifically ε-caprolactam) in an amount of 20 to 80 weight %. It is respectfully submitted that the C₆ acid amide (ε-caprolactam), which is a mandatory component of the fluid disclosed in Franke, is chemically speaking much more aggressive in its decontamination activity than the C₂-₅ acid amides claimed by Applicants. Accordingly, one of ordinary skill in the art would not have readily exchanged the C₆ acid amide of the Franke reference by a C₂-₅ acid amide as claimed by Applicants, as the basic non-aqueous decontaminating fluids claimed by Applicants are designed to provide a full and quick effect when used to decontaminate substrates or the risk exists that the decontamination may be incomplete or may take too long a time.

In addition, the ranges of the further ingredients disclosed in Franke are quite different than those claimed by Applicants. In particular, in Franke it is disclosed that the content of the aliphatic alcohol ranges from 0 to 20 % only. In contrast, Applicants' claimed invention requires an amount of aliphatic alcohol in the range of 20 to 40 %. Although these ranges meet at the limit of 20 %, it is clear from this difference that the fluid system of the present invention has a different focus with respect to this component than that disclosed by Franke.

Furthermore, the aliphatic amino alcohol in the recipe of the fluid according Applicants' claimed invention is limited to the much narrower range of 20 to 40 weight % whereas Franke allows variations of from 10 to 60 weight %.

Applicants' claimed invention achieves quick and reliable decontamination of substrates without affecting, e.g., lacquer layers on substrates to be decontaminated. The use of the less aggressive C₂-₅ acid amide and/or aliphatic C₂-₆ diamine in a differently balanced liquid environment surprisingly allows quick and successful decontamination while avoiding damaging the surfaces treated. In contrast, the decontamination liquid according to Franke, because of its much more aggressive constituents, for example, leads to removal of lacquer layers on the substrates to be decontaminated.

Due to the foregoing, an exchange of the claimed C₂-C₅ cyclic acid amide for a C₆ cyclic amide like ε-caprolactam would result in a great disadvantage to the decontaminating fluid proposed by Applicants' present invention.

On the other hand, it is surprising that a decontaminating fluid according to Applicants'

claimed invention, which provides much milder conditions for the substrates to be decontaminated, at the same time quickly and reliably removes the warfare agents from the decontaminated substrates. While other well-known decontaminating fluids also reliably decontaminate substrates, in contrast to Applicants' claimed fluid, these fluids have a detrimental effect on the surfaces of the substrates to be cleaned.

Similarly, Applicants' respectfully disagrees with the Examiner's interpretation of the claimed invention in view of Wolthers. In Wolthers, as in Franke, the range for the aliphatic alcohol is very much different from the range defined according to Applicants' claimed invention (10 to 25 weight % in Wolthers vs. 20 to 40 weight % as claimed by Applicant). Similarly, the ranges for the aliphatic amino alcohol is very different (25 to 65 weight % in Wolthers vs. 20 to 40 weight % as claimed by Applicants).

The third component of Wolthers is defined to be a strongly polar solvent like DMSO, whereas the present invention specifically calls for a cyclic C₂₋₅ acid amide and/or an aliphatic C₂₋₆ diamine.

The mechanism of decontamination of the Applicants' claimed basic non-aqueous decontaminating fluid does not require strong polar solvents like DMSO but rather requires the amino or amide functions as contained in the cyclic C₂₋₅ acid amide or aliphatic C₂₋₆ diamine. The content of the amide and amine in Applicants' claimed decontaminating fluid is essential because since these components are not only serving as solvents but they also undergo a reaction during decontamination with the warfare agent to form a so called "solvent cage".

Replacing this third component of cyclic C₂₋₅ acid amide and/or aliphatic C₂₋₆ diamine by a polar solvent like DMSO would result in a drastic decrease in decontamination efficiency or, put another way, would require a completely different balancing of the various ingredients of a decontamination liquid in order to make it efficient.

The amino and amide portions of the decontaminating liquid as claimed by Applicants are also important because they, in co-operation with the alkali metal alkoxide and alkali metal amino alkoxide, form the basis for the superior effectiveness of the presently claimed decontaminating fluid over the fluids known from the prior art, while providing the decontaminating effect with much less harm to the surfaces to be treated.

With the decontaminating fluid according to Applicants' claimed invention, the warfare agents to be removed from the surfaces are subject to a reaction which is not reversible. Many other decontaminating fluids, including the ones known from the Franke and Wolthers references, achieve a steady state reaction status which very well may be reversed to set the warfare agent free depending on the conditions in the environment.

It is important to note that all the examples given in Franke and Wolthers show further differences between Applicants' claimed subject matter, so that none of the working examples of these two references would have lead one of ordinary skill in the art to the present invention.

The additional references, namely Hill and Fuchs, relied on by the Examiner are not applicable to Applicants' claimed subject matter. First of all, Hill and Fuchs relate to completely different ointments and disinfectants. The Hill reference actually relates to sort of lotion or skin cream which is to be applied on an affected portion of the skin. However, the decontaminating fluid set forth in Applicants' claimed invention would be by far too aggressive to be applied to skin and is limited in its possible applications to organic and inorganic substrates but not designed to be applied to living organisms.

Therefore, the mere mention in the Hill reference of the two polar solvents DMSO and NMP (as is also the case in the Fuchs reference), does not provide any sort of motivation to one skilled in the art replace the ϵ -caprolactam content in Franke by a polar solvent DMSO or NMP. Furthermore, such replacement would not lead to the claimed invention.

The Fuchs reference discloses a disinfectant to fight ectoparasites which are far removed from the warfare agents to which Applicants' claims are directed. Accordingly, the active ingredients and the solvents recommended in Fuchs would not have been considered when trying to improve or modify warfare decontaminating fluids as claimed by Applicants.

Applicants respectfully submit that the present invention is not anticipated by and would not have been obvious to one skilled in the art in view of Franke, taken alone or in combination with any of the other prior art of record.

Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of

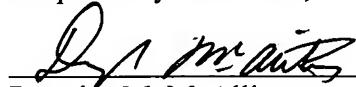
rejection.

Withdrawal of the rejections under 35 U.S.C. § 103(a) is therefore respectfully requested.

Conclusion

The Examiner is respectfully requested to reconsider this application, allow each of the pending claims and to pass this application on to an early issue. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,



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